

ABSTRACT

A power supply circuit includes a DC-DC conversion circuit including a high side transistor and a low side transistor connected in series between a power supply voltage and a reference potential and producing a voltage as PWM controlled output which is obtained by turning “on” and “off” each of the transistors with each PWM signal. The power supply circuit also includes a PWM circuit and output driver that detects a level of an intermediate node potential at a junction point of the high side transistor and the low side transistor after turning “off” the high side transistor, and turning “on” the low side transistor when the intermediate node potential becomes below or equal to a predetermined potential.